

What I claim is:

1. A method for making a device having immobilized in a predetermined pattern thereon a plurality of analyte-binding molecules comprising:
- 5 a) introducing analyte-binding molecules into a plurality of non-communicating channels comprising one or more surfaces that can be activated to immobilize said molecules;
- b) selectively activating a part of said one or more surfaces effective to immobilize analyte-binding molecules thereon;
- 10 c) removing unbound analyte-binding molecules from said channels; successively carrying out steps a), b), and c), each time activating a different part of said one or more surfaces to form an element.
2. A method of claim 1, wherein said channels are formed by joining a first surface to second surface having troughs formed therein, said troughs forming said channels when said first and second surfaces are joined.
- 15 3. A method of claim 1, wherein said one or more surfaces is a glass or a plastic.
4. A method of claim 1, wherein said one or more surfaces are photactivatable.
- 20 5. A method of claim 1, wherein said one or more surfaces comprise a photoactivatable cross-linking agent.
6. A method of claim 1, wherein said activating is by photoillumination.
7. A method of claim 1, further comprising providing one or more masks for successively carrying said activating.
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8. A method of claim 1, wherein said activating is exposing said part of one or more surfaces to a pattern of light defined by a first mask.

9. A method of claim 1, wherein said activating is exposing said part of one or more surfaces to a pattern of light defined by a first mask, whereby said photoactivatable cross-linking reagent is activated in said exposed surface.

10. A method of claim 1, wherein said photoactivatable surface is formed by a process, comprising:

a) coating a surface with alkylamine-polystyrene

b) reacting the amine of said alkylamine-polystyrene with NHS-ASA thereby forming a photoactivatable surface comprising a phenylazide, which is activatable by exposure to UV light.

11. A method of any of the above claims, wherein the analyte-determining molecule is an antibody, an oligonucleotide, a protein-nucleic acid, an aptamer, a ribozyme, a nucleic acid, a peptide, a nucleic acid binding-polyamide, a polysaccharide, a glycoprotein, a lipid, a lectin, a receptor polypeptide, a ligand, an antigen, a fusion protein, a hapten, or a chelating agent.

12. A method of any of the above claims, wherein the analyte-determining molecule is a polyclonal antibody, a monoclonal antibody, a Fab fragment, a single-chain antibody, or a disulfide Fab fragment.

13. A method of any of the above claims, further comprising analyte determination.

14. A method of any of the above claims, further comprising utilizing the device to determine the presence of analytes which comprises: an immunoassay, a hybridization assay, a ligand binding assay, a receptor binding assay, or an affinity-binding assay.

15. A method of any of the above claims, wherein the analyte-
detection is by radiation, chemoluminescence, phosphorescence,
fluorescence, or energy emission.

16. A device made by a method of claim 1.

5 17. Use of a device made by a method of claim 1.

18. A method of making a device having immobilized thereon a plurality
of analyte binding molecules comprising:

(a) contacting a substrate with array members,

10 (b) activating a sector of the substrate to form an activated substrate
sector, whereby said activated substrate sector can bind array members with
which it is in contact; and

(c) binding the array members thereto.

19. A method of claim 18, further comprising (d) removing unbound array
members from said substrate.

15 20. A method of claim 19, further comprising repeating the cycle of
contacting, activating and binding and clearing, with additional array members,
whereby binding array members to different parts of the substrate in succeeding
cycles fabricates an array of the array members bound to the substrate.

20 21. A method of claim 18, whereby unactivated substrate sector can not
bind array members with which it is in contact.